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HERITAGE PROGRAM FY2004 REPORT TO THE ARIZONA LEGISLATURE

Project Year July 1, 2003 to June 30, 2004

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ACKNOWLEDGMENTS

The assistance of personnel throughout the Arizona Game and Fish Department, and our external cooperators, in preparing this report and conducting the activities reported herein is gratefully acknowledged.

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This Heritage Program Report to the Arizona Legislature is required under, and submitted in compliance with, Arizona Revised Statutes 17-298.G.

HERITAGE PROGRAM FY2004 REPORT TO THE ARIZONA LEGISLATURE

Table of Contents

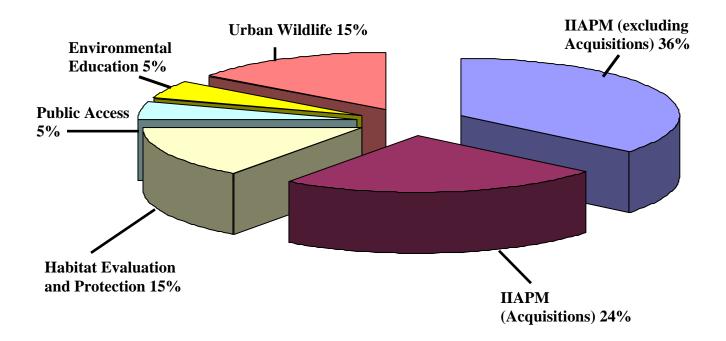
HERITAGE PROGRAM COMPONENT FUNDING	J
FISCAL YEAR 2004 HERITAGE FUND REVENUES, EXPENDITURES, FULL-TIME EMPLOYEES BY	2
Subprogram	
SUBPRGRAM SUMMARIES OF PROJECTS, ACTIVITIES AND EXPENDITURES	
IDENTIFICATION, INVENTORY, ACQUISITION, PROTECTION, AND MANAGEMENT (IIAPM) SUBPROGRAM	3
IIAPM-LW: LANDS AND WATER ADMINISTRATION AND ACQUISITION PROJECT	3
Lands and Water Rights Administration and Acquisition	3
Lands Operations and Maintenance	4
Heritage Data Management System	5
IIAPM-WM: WILDLIFE MANAGEMENT PROJECT	ć
Administration and Coordination	ϵ
Wildlife Management	7
Information Management Systems	9
Outreach	10
IIAPM-FWR: FISH AND WILDLIFE RESEARCH PROJECT	10
Wildlife and Fisheries Research	10
IIAPM-S: STEWARDSHIP PROJECT	11
Lands Stewardship	11
HABITAT EVALUATION AND PROTECTION SUBPROGRAM	12
HABITAT EVALUATION AND PROTECTION PROJECT	12
Habitat Evaluation and Protection	12
Geographic Information System	13
URBAN WILDLIFE SUBPROGRAM	14
URBAN WILDLIFE AND URBAN WILDLIFE HABITAT PROJECT	14
Urban Wildlife Management	14
Urban Wildlife and Human Interactions	15
Urban Habitat and Recreation	16
Urban Law Enforcement and Protection	18
Education and Information	19
ENVIRONMENTAL EDUCATION SUBPROGRAM	20
ENVIRONMENTAL EDUCATION PROJECT	20
Environmental Education and Information	20
ACCESS SUBPROGRAM	21
ACCESS PROJECT	21
ADMINISTRATIVE AND SUPPORT SERVICES	23
APPENDIX I: HERITAGE GRANTS AWARDED IN FY2004	A1-1

HERITAGE PROGRAM FY2004 REPORT TO THE ARIZONA LEGISLATURE

Report Period: July 1, 2003 - June 30, 2004

HERITAGE PROGRAM COMPONENT FUNDING

As established in A.R.S §17-298



Fiscal Year 2004 Heritage Fund Revenues, Expenditures, Full-Time Employees by Subprogram.

		FY04			
		Revenue	FY04	FY04 Carry	Full-Time
Subprogram	FY04 Revenue ¹	Percent	Expenditures ²	Forward (%)	Employees
Acquisition	\$2,400,000	24%	\$1,520,436	•	4.00
IIAPM	3,600,000	36%	3,672,274	2%	36.00
Habitat Evaluation	1,500,000	15%	1,102,719	-	0.00^{3}
Urban Wildlife	1,500,000	15%	2,015,453	26%	15.00
Environmental					
Education	500,000	5%	357,945	=	5.00
Public Access	500,000	5%	606,629	18%	4.25
Interest Admin	252,284	N/A	631,401	60%	13.00
Total	\$10,252,284		\$9,906,857		73.25

In FY2004, the amount of funds spent from the Heritage Fund for employee personal services was \$2,665,184. In addition, \$835,032 was spent on employee related expenses.

¹ Revenue/expenditure allocated pursuant to percentages set forth in statute.

² Total expenditures include prior year unexpended revenue as authorized by the Arizona Game and Fish Commission.

³ Habitat Evaluation (HEP) staff are full-time Federal employees supported with the HEP cost transfer which represents match funding.

SUBPROGRAM SUMMARIES OF PROJECTS, ACTIVITIES AND EXPENDITURES

IDENTIFICATION, INVENTORY, ACQUISITION, PROTECTION, AND MANAGEMENT (IIAPM) SUBPROGRAM

OVERVIEW:

Four projects are conducted in the subprogram:

- 1) Land and Water Rights Administration and Acquisition Project (IIAPM-LW)
- 2) Wildlife Management Project (IIAPM-WM)
- 3) Fish and Wildlife Research Project (IIAPM-FWR)
- 4) Stewardship Project (IIAPM-S)

Projects encompassing over 50% of IIAPM expenditures:

• Land and Water Administration and Acquisition¹: 32%

• Wildlife Management: 35%

Project Information: Administrative work was conducted at the Arizona Game and Fish Department (department), Habitat Branch, 2221 West Greenway Road, Phoenix, Arizona 85023-4399; the department's Regional Offices in Pinetop, Flagstaff, Kingman, Yuma, Tucson, and Mesa; and other locations as necessary. Fieldwork was conducted statewide and, as necessary, in other states.

PROJECTS (Summary of Activities):

1) IIAPM-LW: LAND AND WATER RIGHTS ADMINISTRATION AND ACQUISITION PROJECT

LANDS AND WATER RIGHTS ADMINISTRATION AND ACQUISITION

<u>Objective</u>: To protect fish and wildlife habitat through real property management, acquisition, land leases and exchanges, creation of rights-of-ways, establishment of conservation easements and development of special use agreements.

Summary of Activities:

The department continues to evaluate and improve processes as needed to determine and monitor the quality and value of wildlife habitat. These processes are used in the evaluation of potential acquisitions, accounting for appropriate laws and regulations. As of June 30, 2004, the database of properties consisted of 347 active records, which include 278,070 acres of land, 2,851 acres of which are leased by the Commission to other entities usually as right-of-way agreements. In addition, the department maintains 408 water right claims, manages 7 fish hatcheries, 43 lakes/reservoirs, 82 wells, 57 springs, 59 retention dams or tinajas, and 32 stock ponds exceeding 3,500 surface acres of water.

¹ Approximately \$1.46 million of reported Acquisition expenditures are in escrow relative to offer in final stages of review. Total expenditures include Acquisition and IIAPM Subprogram costs.

A total of nine property offers were examined over this reporting period. These offers advanced through different levels of the Land Protection Evaluation Process resulting in the following: One offer rejection, three withdrawn offers, one offer past preliminary review stage, one donation, one land exchange, one Section 6 Grant award, and one offer advanced to final stages of review. Additionally, the Commission acquired one property in fiscal year (FY) 2004. The Guyett property, 0.5 deeded acres (T09N R29E, Apache County, Arizona) will be incorporated into the Becker Lake Wildlife Area.

The department fulfilled data requests from the Attorney General's Office in association with the Little Colorado River and Gila River adjudication proceedings. The Lands Program continues to coordinate ongoing issues associated with Commission-owned water rights and to monitor wildlife area activities to ensure compliance. Presentations and tours were conducted regarding acquired Heritage properties to provide information on the management goals and status of implementing planned management activities on the twelve Heritage fund related properties.

Four full-time employees were employed in FY2004 in connection with property acquisition, including survey, appraisal and other related activities. There were no property taxes paid nor contributions made during FY2004, however \$12,229, was distributed to five Counties (Apache, \$4,675; Cochise, \$3,676; Pinal, \$573; Yavapai, \$2,480; and Yuma, \$824) as voluntary payments in lieu of taxes.

LANDS OPERATION AND MAINTENANCE

<u>Objective:</u> To operate and maintain Heritage Fund properties at sufficient performance levels to protect investments, conserve natural resources and provide public recreation opportunities.

Summary of Activities:

A new Annual Operating Plan for subleasing livestock grazing was developed and implemented during the fiscal year according to provisions in the department's Livestock Grazing Plan for the Grasslands Wildlife Area. Forage utilization monitoring was conducted during the grazing period in each of the grazed pastures to insure that proper use of forage met the objectives stated in the management plan.

The following Wildlife Management Area activities were completed in fiscal year FY2004:

- Sipe White Mountain Wildlife Area: Continued maintenance and repair of the facility, roads, and boundary fences, habitat enhancement and re-vegetation, trail system improvements, maintaining water rights through irrigation and cultivation, and maintenance and preparation for new wildlife drinkers. A new volunteer host agreement was developed and implemented to operate the visitor center and public assistance at Sipe Wildlife Area (SWA). The visitor host program has been very successful in helping the department manage the SWA visitor center and provide information to the public on the department's management of the property.
- Wenima Wildlife Area: Continued maintenance and repair of the facility, roads, and boundary fences, maintaining water rights through irrigation and cultivation and

associated maintenance of ditch system, trail system improvements, and maintenance and improvement of the irrigation delivery system.

- ➤ Grasslands Wildlife Area: Continued maintenance and repair of the facility, roads, and boundary fences; maintaining water rights through irrigation and cultivation and associated maintenance of ditch system; Little Colorado spinedace refugia construction; continued implementation of the department's livestock grazing plan for state lands.
- ➤ Becker Lake Wildlife Area: Continued maintenance and repair of the facility, roads, and boundary fences, habitat enhancement and re-vegetation, and maintaining water rights through irrigation and cultivation.
- Chevelon Wildlife Area: Development of a cooperative agreement with the Engineering School of Northern Arizona University to conduct and evaluation of the existing water delivery system.
- ➤ Upper Verde River Wildlife Area: Continued maintenance and repair of the facility, roads, and boundary fences, development of camping areas, and increased patrols to prevent vandalism.
- ➤ Quigley Wildlife Area: Continued maintenance and repair of the facility, roads, and boundary fences; maintaining water rights through irrigation and cultivation and associated maintenance of ditch system; development of additional moist soil units; and habitat enhancement and revegetation, forage production for wildlife.

HERITAGE DATA MANAGEMENT SYSTEM

<u>Objective:</u> To maintain a sensitive species management information system that facilitates storage, retrieval, updating and analysis of data gathered through inventory and other management activities.

Summary of Activities:

Element occurrence information was gathered from a variety of sources and entered into the Heritage Data Management System (HDMS). In FY2004, 776 new records were added and 1701 records were updated. HDMS staff maintained and updated procedures for identifying and extracting sensitive-element data from inventory, monitoring, and management projects conducted by agencies, institutions, and others. HDMS continues to prepare and update brief summaries of current information and references from scientific literature, agency reports, and knowledgeable individuals for selected special status biological elements.

HDMS maintains direct information sharing compatibility with cooperators. Department staff apprised current and potential cooperators of opportunities for cooperative data management, outputs, and analyses. HDMS staff also trained department and cooperator personnel in conventions and techniques for recording, providing, and using element occurrence and status information. Element occurrence, status information, and HDMS data subsets were provided to AGFD Regional Habitat Programs, AGFD Nongame personnel, U.S. Forest Service Region 3

and Ranger District Offices, and U.S. Bureau of Land Management. These subsets were used for project evaluations and baseline data for surveys. Regional HDMS databases and desktop mapping files were updated quarterly to facilitate timely assessment of sensitive elements that might be affected by an ever-increasing number and variety of statewide projects.

HDMS personnel conducted the following interagency activities:

- 1) Provided information and distribution maps for several endangered species to the Arizona State Land Department for use in fire management.
- 2) Provided updates of element occurrence information to Pima County for the Sonoran Desert Conservation Plan.
- 3) Provided a data subset to the Arizona Department of Transportation to aid in identifying environmental issues for maintenance activities.
- 4) Provided technical assistance and data interpretation to the U.S. Forest Service for finalizing their Sensitive Species List.
- 5) Provided and updated limited subsets of data, and preparation of a variety of reference materials on special status species to the U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, and the U.S. Forest Service.

HDMS maintained a Memorandum of Understanding (MOU) with the U.S. Forest Service for sharing sensitive species information; a MOU with NatureServe for data sharing, financial support and technical support; and established a Task Order with the U.S. Bureau of Land Management for the exchange of information on special status species.

HDMS continues development of a web site for general information including species lists by county and watershed for special status species in Arizona. Forty-one new abstracts were written and one-hundred fifty-three were updated and/or completely revised. Currently there are 430 species abstracts accompanied by distribution maps, photos or line drawings on the HDMS web site. GIS was integrated into the daily management of HDMS data through the BIOTICS software being used by Heritage Programs internationally. The HDMS designed and produced a variety of maps in GIS format to go with many HDMS projects. HDMS personnel continually upgrade the database, mapping software, and their report writing skills to increase productivity and efficiency and improve product quality.

2) IIAPM-WM: WILDLIFE MANAGEMENT PROJECT

ADMINISTRATION AND COORDINATION

Objective: Provide administrative oversight for project personnel and coordinate with cooperators.

Summary of Activities:

Project staff coordinated activities with federal, state, county, tribal, and private entities, as well as within the department. Updates and summaries of project activities were provided through Branch, Division, and Commission briefing items. Specific coordination functions included chairing the following groups:

• Western Association of Fish and Wildlife Agency's Threatened and Endangered Species Committee

- Black-footed Ferret Recovery Implementation's Conservation Subcommittee
- Mexican Wolf Oversight Committee and Adaptive Management Work Group
- Jaguar Conservation Team
- Partners in Amphibian and Reptile Conservation (PARC) support

Several agreements providing opportunity for mutual conservation management consummated, including an inter-governmental Agreement with the University of Arizona and a Cooperative Agreement with IMADES for Sonoyta mud turtle conservation and management. Project staff implemented the sixth Wetlands Training Course in February 2004, in Guadalajara, Jalisco, Mexico. The department received two "Mexico's Wetlands Conservation Awards" from the Government of Mexico during a special ceremony celebrating World Wetlands Day. Project staff assisted the North American Commission for Environmental Cooperation's Conservation of Biodiversity Program to select priority activities from the *Strategic Plan for North American Cooperation in the Conservation of Biodiversity*. Project staff also participated in the 2004 meeting of the U.S./Canada/Mexico Trilateral Committee for Wildlife and Ecosystem Management and Conservation in Calgary, Canada.

WILDLIFE MANAGEMENT

<u>Objective:</u> Manage Arizona's sensitive wildlife and sensitive habitats by conducting a full range of planning, conservation, and other management activities.

Summary of Activities:

Project staff continued to establish, evaluate, and improve data gathering and analysis protocols. The Scientific Collecting Permits Team reviewed the standard stipulations for the various taxonomic groups, which will assist with reducing review cycle-time for permits. Project staff also maintained IIAPM eligibility-criteria for department activities, external grants, and categories and lists of sensitive species, habitats, and other elements of special management significance. An updated list of IIAPM eligible species, habitats, and management elements was completed in June 2004.

Heritage funds were used to pursue and match funding from federal programs, such as, State Wildlife Grants, Section 6, Sportfish and Wildlife Restoration, and Wildlife Conservation and Restoration Program. The following were programs benefiting from the use of "Heritage" match:

- Amphibians and Reptiles
- Sponsor-a-Tortoise
- Kanab Ambersnail
- Lower Colorado River Multi-species Conservation Plan
- Malpai Borderlands Habitat Conservation Plan and
- Soronan Desert Conservation Plan.

Arizona has a large number of native fish species that profited from Heritage Funded activities. For example, Apache trout activities included the renovation of Snake Creek, Bear Wallow Creek and East Fork Little Colorado River. In addition, Lee Valley Lake was drained to promote a winterkill to remove non-native brook trout.

Field surveys and Management Activities:

Amphibians	Reptiles	Invertebrates	Fishes
Sonoran tiger salamander	Desert tortoise	Kanab ambersnail	Gila Trout
Barking frog	Flat-tailed horned lizard	Page springsnail	"Big River" fishes of the lower Colorado
			River
Ranid frogs (all species)	New Mexico ridgenose rattlesnake	Quitobaquito tryonia (springsnail)	Desert sucker
	Narrow headed gartersnake	San Xavier talussnail	Gila topminnow
		Three Forks springsnail	Desert pupfish
		Wet Canyon talussnail	Gila chub
			Spikedace
			Loach minnow
			Little Colorado
			spinedace
			Longfin dace
			Roundtail chub
			Sonora chub
			Virgin river fishes
			Yaqui river fishes
			Speckled dace

During the 2003-04-reptile collection season, "Operation Madrean Arch" was launched. This operation recorded over 200 pieces of intelligence information related to the illegal take of protected rattlesnake species. Several cases prosecuted related to the illegal take and commercialization of Gila monsters, massasaguas, and ridge-nosed rattlesnakes and resulted in 15 years of license revocations and possible fines.

Project staff completed the Arizona Breeding Bird Atlas manuscript for final publication. These efforts included the compilation and analysis of atlas data to determine the general distribution of over 270 species of breeding birds in Arizona. Distribution maps, breeding phenology graphs, and species accounts containing information on habitat, breeding, distribution, and status were developed for each species.

Fourteen projects were funded around the state to address all priorities within the Arizona Bird conservation initiative; habitat enhancement and restoration, inventory and monitoring, research, and public outreach and education. These projects assisted with the conservation of over 18,800 acres of bird habitat, and reached over 11,000 people through the production of brochures and location of signage within project areas.

High-status species Activities:

- FY2004 marked the 7th year of California condor reintroduction activities. Project activities included the release of juvenile condors; monitoring daily movements, foraging behavior and breeding attempts; conducting routine health checks; treating birds with high blood lead levels; participating on a committee formed by the USFWS to reduce exposure to lead by condors; implementing approved lead awareness recommendations; attending Southwest Condor Working Group and California Condor Recovery Team Meetings and conducting public outreach. Bird field surveys and management activities were also conducted for bald eagle, black rail, Yuma clapper rail, cactus ferruginous pygmy owl, peregrine falcon, southwestern willow flycatcher, yellow-billed cuckoo, and Mexican spotted owl.
- ▶ Black-footed ferret project staff completed 384 transects to determine prairie dog burrow densities across 64 transect blocks. It was estimated that the Aubrey Valley could sustain 72 black-footed ferret families. This is up 43 families from 2002. In accordance to the 2003 allocation proposal, 44 ferrets were released into Aubrey Valley. In October through November a hard release technique was used to release 27 ferrets preconditioned elsewhere. Seventeen other ferrets were preconditioned in Arizona and were released in association with spring releases. Sixteen ferrets were held for breeding and spring releases. Spotlight surveys conducted during the summer and fall resulted in 29 confirmed black-footed ferret sightings (24 individuals), 63 sightings of ferrets without confirmation of identity and 19 possible sightings. Fourteen wild-born ferrets (6 males, 8 females) were captured and tagged.
- Mexican wolf activities included more releases and monitoring efforts. Specific actions used by the reintroduction effort included radio-telemetry, field team coordination and supervision, outreach, road-kill collection, landowner contact, reporting, and data entry. A pack of five wolves was released in June 2003. Department aircraft were supplied for weekly telemetry flights. Up to ten packs of wolves were monitored by the field team. Reproduction in the wild was once again documented during FY2004. Other mammal field survey and management activities were conducted for bats, Hualapai Mexican vole, jaguar, jaguarundi, Mount Graham red squirrel, ocelot, Sonoran pronghorn, and black-tailed prairie dog.

Commission Orders affecting sensitive species-related issue were reviewed and revised where appropriate. Both, Commission Order 42 and Commission Order 43 were revised. Commission Orders 41 and 43 were approved in October 2003. Department staff reviewed Commission Orders 13 and 14.

INFORMATION MANAGEMENT SYSTEMS

Objective: Maintain manual and computerized sensitive wildlife and sensitive habitat information.

Summary of Activities:

The project maintained computerized databases and files for many nongame species and projects, including bat box monitoring, wolf aerial locations, wolf population status, miscellaneous wildlife sightings and for all sensitive species observed during the ranid frogs project surveys, particularly

amphibians and reptiles. All program areas submitted new and updated sensitive element occurrence information to HDMS for processing.

Project developed and archived 35-mm photographs and digital images of many different species, their habitats, and significant project activities for use in technical presentations, publications, and education/outreach programs.

OUTREACH

<u>Objective:</u> Increase program awareness and support by informing and educating the public, cooperators, and others about project-related issues, including wildlife conservation and management, wildlife-based recreation, and related topics.

Summary of Activities:

As an ongoing activity, articles and technical reports on a variety of species and topics for publication in scientific and other journals are produced and disseminated. Presentations were made to the public and professional audiences that included the Desert Tortoise Council, Glendale Community College, National Turtle and Tortoise Society, Boyce-Thompson Arboretum, Gilbert Riparian Preserve, Southwest Predator Management Committee, Black-footed Ferret Recovery Implementation Team, Jaguar Conservation Team, Mesa Southwest Museum, and several schools and parks.

Staff prepared and published Nongame Endangered Wildlife Program Technical Reports on a variety of species and published four *Wildlife Field Notes* articles. Staff authored the *Arizona's Native Fish Heritage* booklet, seven species accounts in a book on conservation of amphibians of the United States, and 4 articles in peer-review journals. All articles are scheduled publishing by the end of 2004.

The project maintained the Arizona Bat Resource Group quarterly newsletter and contributed to the book *Conservation and Management of Prairie dogs*, which is in press with Island Press. Staff provided articles, press releases and television interviews as a result of the July salvage of Gila chub from Sabino Canyon and a NPR interview regarding Gila chub salvage and a fish kill in the Salt River resulting from fires in the southwest. In addition, Staff provided interviews for 12 newspaper articles and two radio and five television segments for stories related to desert tortoise, Tarahumara and Chiricahua leopard frog releases; and a monsoon breeding amphibian feature. Newspaper and television interviews were also provided in association with the free-tailed bat roost located at the Maricopa County Flood Control tunnel.

3) IIAPM-FWR: FISH AND WILDLIFE RESEARCH PROJECT

WILDLIFE AND FISHERIES RESEARCH

<u>Objective</u>: To collect information on sensitive wildlife species to aid in conservation efforts to ensure these species are maintained as viable components of Arizona's diverse wildlife assemblage.

Summary of Activities:

The department, in cooperation with the Bureau of Land Management and Northern Arizona University, is conducting research on wildlife responses to restoration on Mt. Trumbull in Northern Arizona. During FY2004, fieldwork continued as scheduled and included monitoring mule deer, nest success, nestling development, fledgling survivorship and parasitism on western bluebirds, and assessing reptile abundance. Mule deer were outfitted with GPS collars in June-August 2003. Mule deer doe to fawn ratios were determined in August 2003 and doe survival was monitored throughout winter 2003-04. Western Bluebird nests were monitored in May-August 2003 and 2004. Nest success, nestling development and fledgling survivorship were documented. Beginning in June 2003 and 2004, radio-transmitters were attached to fledglings. Fledglings were tracked for the life of the transmitter, which was approximately three weeks. As part of the research component on western bluebirds, literature reviews were continued throughout the year pertaining to nest parasitism, nestling development, and fledgling survival rates. Reptile trap arrays were opened in areas of different restoration treatment status through September 2003. Captured lizards were aged, sexed, and marked prior to release. Manuscripts were produced and accepted for publication on mule deer foraging and daybed sites, migrant songbird habitat associations in ponderosa pine forests, and modeling western bluebird nest success in a restoration-treated forest. Completion of Mt. Trumbull research has been delayed because of drought and concomitant fire risk, and difficulty of small timber harvest necessary for completing the treatments prior to post-treatment data collection. Control and transition data will continue to be collected, and post-treatment activity will be initiated in FY2005, pending forest management conditions.

4) IIAPM-S: STEWARDSHIP PROJECT

LANDS STEWARDSHIP

Objective: Maintain and enhance public access and wildlife habitat on private and public lands.

Summary of Activities:

- Llk proof fencing was installed at Nelson Reservoir to protect a riparian area.
- ❖ Fencing and an alternative watering area were installed at Silver Creek Hatchery to prevent cattle from entering a riparian area and to provide a permanent watering area for wildlife.
- ❖ Payment was made for a third year of a three-year project at Date Creek to assess the potential of using herders to keep cattle out of riparian areas.
- ❖ A well and watering area was installed at the Audubon Research Ranch for pronghorn antelope.
- ❖ An alternative watering facility was installed at Cane Springs Ranch to keep cattle out of riparian area and also provide a permanent watering area for wildlife.
- ❖ Fencing was installed around a wetland at Long Lake within the national forest to prevent cattle grazing.
- Fencing was installed at M Diamond Ranch to protect a riparian area from cattle grazing. This project also included the installation of numerous elk jumps.
- ❖ Several dirt tanks on the Babbitt Ranches were cleaned out and sealed within key pronghorn antelope habitat.
- ❖ A total of eight new Habitat Stewardship Agreements were implemented.

HABITAT EVALUATION AND PROTECTION SUBPROGRAM

OVERVIEW:

Project information: Administrative work was conducted at the Arizona Game and Fish Department, Habitat Branch, 2221 West Greenway Road, Phoenix, Arizona 85023-4399; the Department's Regional Offices in Pinetop, Flagstaff, Kingman, Yuma, Tucson, and Mesa; and other locations statewide; and at the national level, as need.

Habitat Evaluation and Protection project activity expenditures amounted to 11.2% of total Heritage Fund expenditures.

PROJECTS (Summary of Activities):

HABITAT EVALUATION AND PROTECTION PROJECT

HABITAT EVALUATION AND PROTECTION

<u>Objectives:</u> Incorporate fish and wildlife resource needs or features in land and water development projects and land and water management planning efforts in Arizona. Ensure habitat protection through environmental compliance and regulation, and to monitor the implementation and effectiveness of mitigation commitments for various land and water development projects and management planning activities in Arizona.

Summary of Activities:

Project personnel acquired data from wildlife surveys, habitat evaluations, and existing sources for use in biological reviews. Staff worked with other federal, state and local agencies and organizations on wildlife and wildlife habitat issues. Staff developed and implemented the Herbaceous Forage Monitoring Program in all Game Management Units that contain National Forest lands in the department's Pinetop Region. In addition, staff was involved with habitat projects and land and resource planning issues on National Monuments, Wilderness Areas, and the Governor's Forest Health Advisory Committee.

Forest Health and Forest Restoration planning efforts focused on developing wildlife-based monitoring and research programs to better understand the affects of forest restoration to wildlife, and incorporating an adaptive management approach into the planning and implementation process. Project personnel were involved with habitat assessment and restoration projects following the Rodeo-Chediski and Willow Fires. Other project efforts included:

- Enhancing grassland habitats in Northern Arizona
- Burro management activities
- Review of permit applications for proposed dredge and fill activities in accordance the Clean Water Act and Rivers and Harbors Act
- Rio Salado Environmental Restoration Project
- Lower Colorado River Multi-species Conservation Program Decommissioning of the Childs and Irving Power Plants on Fossil Creek
- Arizona Water Protection Fund

Staff provided Commission briefings regarding statewide land and resource management actions including those that may have potential impacts on fish and wildlife resources and the department's mission. The department's Environmental Assessment (EA) Checklist process was reviewed and streamlined. The Habitat Program received and completed 40 EA Checklists from other department work units duringFY2004. Program staff continued to work with the United States Fish and Wildlife Service's Division of Federal Aid to improve environmental compliance processes that are important for implementing Federal Aid-funded department projects. These process improvement efforts have increased the efficiency and effectiveness of the department's statewide project evaluation and environmental compliance activities.

GEOGRAPHICAL INFORMATION SYSTEM (GIS)

<u>Objective:</u> To provide a Geographic Information System (GIS) for department use as an effective natural resource data management tool in support of the department's mission and functions.

Summary of Activities:

Geographical Information System (GIS) staff continued to provide support to the department by playing a major role in assisting lands acquisitions and management, including shooting range development. Other primary areas of GIS support included wildlife management, data development, the Public Access Program, and Information and Education applications.

GIS staff developed and provided maps for a variety of purposes including:

- Lands for acquisition or exchange
- Multiple rights-of-way and easement projects
- Department lands and water rights
- Wildlife management efforts
- Wildlife water development locations
- Proposed access improvements and gates
- Regional boundaries & Wildlife Manager districts
- Road closures
- Department shooting ranges
- Department Wildlife Areas
- Game Management Units
- Alternate access routes
- State hunt regulations
- Land ownership, grazing plans and allotments

GIS personnel were actively involved in the Arizona Geographic Information Council (AGIC), serving on the technical and strategic planning subcommittees, and contributed to educational efforts such as the Arizona State GIS Conference.

URBAN WILDLIFE SUBPROGRAM

OVERVIEW:

Projects encompassing over 50% of Urban Wildlife expenditures:

• Wildlife Management/Wildlife and Human Interactions/Habitat and Recreation¹: 42%

• Education and Information: 37%

Project information: Administrative work was conducted at the Arizona Game and Fish Department, Game Branch, 2221 West Greenway Road, Phoenix, Arizona 85023-4399; the department's Regional Offices in Pinetop, Flagstaff, Kingman, Yuma, Tucson, and Mesa; and other locations statewide, as necessary.

PROJECTS (Summary of Activities):

URBAN WILDLIFE AND URBAN WILDLIFE HABITAT PROJECT

URBAN WILDLIFE MANAGEMENT

<u>Objectives:</u> Develop the biological and social information needed to support sound management and conservation of urban wildlife and urban wildlife habitat, to support environmental review and management of wildlife resources in urban settings. Provide financial assistance through grants and contracts to agencies, local governments, organizations, and universities to support the conservation of wildlife and wildlife habitats and to promote wildlife-related recreation and education in urban environments.

Summary of Activities:

Planning and coordination with the department, Pima County and the National Park Service was initiated to begin a pilot study starting in FY2004-05 which will document road kill mortality rates in areas designated as important wildlife corridor areas by Pima County.

Various surveys were conducted as indicated on the following Table:

Survey/Research	Area	
Winter deer and javelina survey	Tucson Mountain Wildlife Area	
Annual winter raptor survey	Metropolitan Tucson area and adjacent	
	undeveloped areas covering approximately 840	
	miles	
Burrowing owl demography and habitat	Davis Monthan Air Force Base and the	
research	University of Arizona	
Cactus Ferruginous Pygmy owl surveys	Their respective potential habitats	
Yuma clapper rail and Southwest	Greater Phoenix area	
willow flycatcher surveys		

¹ The three programs were combined for purposes of reporting expenditure information because the activities all have common characteristics.

Additional Survey Related Activities:

- □ The department provided funding and personnel for the 3rd Annual Tucson Bird Count. More than 80 community volunteers conducted surveys. Over 180 species have been recorded from over 900 sites. Data from the count have been used in land use planning efforts and other projects in Tucson. Data were presented in various forums, and six manuscripts were published, including an article in Bioscience (2004) and another in Landscape and Urban Planning (2003).
- □ The department's Tucson Regional Office (Region V) continued monitoring bat-bridge roosts identified during a study of urban roost characteristics in Tucson. Thirty-one roosts were monitored between August and early October using spotlights. Roosts of Mexican free-tail bats, big brown bats, cave myotis, pallid bats and western pipistrelles have been located.
- The Urban Raptor Nest Monitoring and Foster Project is an ongoing project to locate and monitor as many urban raptor nests as possible. Objectives include preventing raptor electrocutions by providing nest location data to power companies so that they may prioritize power line insulation; sharing nest location information with University of Arizona researchers studying the extent of electrocution and efficacy of bird guard on power poles; and finding suitable nests for fostering injured and orphaned nestling and fledgling raptors to reduce the number that are hand-raised by wildlife rehabilitators. Information gathered in FY2004 has been specifically used to re-nest or foster greathorned owls, barn owls, burrowing owls, Harris's hawks and Cooper's hawks.

Staff contacted potential grant applicants to encourage them to attend workshops and apply for Heritage grants. Staff also provided assistance with grant workshops, answering questions from applicants, review of proposals and inspection/review of projects. The cities of Avondale, Paradise Valley and Phoenix requested assistance with determining Urban Heritage Grant project feasibility (habitat restoration/enhancement, interpretive signage, water sites).

URBAN WILDLIFE AND HUMAN INTERACTIONS

<u>Objectives:</u> Assist with resolving conflicts between humans and wildlife in urban settings. Provide information to the public that enhances public awareness and understanding of urban wildlife issues and the department's activities related to those issues. Foster wildlife rehabilitation efforts from volunteers in the community that are consistent with restoration and protection of Arizona's wildlife resources.

Summary of Activities:

The department responds to the community and assists as appropriate to help find solutions to wildlife-related problems, such as, property damage, noise, and safety concerns. Several services offered by the department are listed below:

Advice through printed materials, phone calls, the media, community meetings, and referrals to private wildlife service operators.

- Almost 80 percent of wildlife complaint calls were resolved by providing information, either over the telephone or by mailing brochures, urban wildlife videos, or other materials. The remaining calls required site visits. Calls from the public were tracked using a new database, which allows problem areas and wildlife to be tracked, as well as improving reporting accuracy.
- Department personnel routinely assist homeowners with urban wildlife conflicts by contacting and making recommendations of tolerance and self-help/wildlife control contracting.
- Classes are provided on living with urban wildlife, including the development of a speaker's bureau, where volunteers will be trained to give a talk on how to live with wildlife.
- A fact sheet and flow chart to aid law enforcement agencies in their response to wildlife calls was developed and distributed by the department.
- The U.S. Forest Service and the department coordinated efforts to resolve potential urban wildlife conflicts, particularly with regard to mountain lions in the Sabino Canyon area.
- Informational booths, presentations, informational videos and publications on urban wildlife were widely distributed through both the Tucson and Mesa Regions. The programs covered urban wildlife, habitat, and conflicts. Tolerance and resolution methods are highlighted.
- Collaboration with the Rural Metro Fire Department on respective roles and responsibilities led to assistance to communities with various specific wildlife conflict resolution concerns including coyotes in Sun City West, Scottsdale and Westbrook; mountain lions reported in Scottsdale, Apache Junction and Queen Creek; and javelina in Ahwatukee

Featured Wildlife Rehabilitation Efforts:

Habitat restoration projects were conducted along the West Branch Santa Cruz River and in the Tucson area for burrowing owls. The Tucson Region is partnering with Wild At Heart, a rehabilitation group, as well as Southern Arizona Homebuilders Association, Pima County, City of Tucson, Tucson Electric Power, private landowners, and others to install hundreds of artificial burrows for burrowing owls on public and private land. This will enhance habitat and create new wildlife viewing opportunities. Over 100 burrows were installed, and 40 burrowing owls were released in the Tucson area. The Mesa Region personnel also coordinated urban burrowing owl nesting and relocation activities with rehabbers.

URBAN HABITAT AND RECREATION

<u>Objectives:</u> Facilitate protection, restoration, and enhancement of native terrestrial and aquatic wildlife habitats in urban areas. Support conservation, restoration and enhancement of habitats of value to wildlife in urban settings, and develop and maintain local wildlife-related recreational opportunities for residents of urban communities.

Summary of Activities:

The department continued to cooperate with agencies, local governments, private property owners and organizations to develop and enhance wildlife-related recreational opportunities in urban areas. The project promoted recreational opportunities for wildlife watching and urban fishing. This included assisting Pima County and the City of Tucson in creating artificial burrow sites for burrowing owls at parks to be used as public viewing areas around Tucson. Rio Vista Lake, a 2.7-acre lake in the City of Peoria, was added to the list of designated Urban Fishing waters on March 1, 2004. There are now 19 lakes in 11 municipalities participating in the Arizona Urban Fishing Program. Meetings were held with representatives of five new lake projects that could become part of the Urban Program in the next few years. Overall public participation was 43,000 anglers representing 500,000 angler use days in FY2004.

Four lake habitat improvement projects were completed in cooperation with the Boy Scouts of America at Tempe Town Lake. The 224-acre lake provides a significant fishing opportunity to urban residents. The Eagle Scout projects included the installation of bass bungalows and catfish condos. Project personnel assisted with the coordination and installation of habitat for both projects. A total of 31 bass bungalows and 82 catfish condos were installed.

Project staff provided outreach to school administrators, City of Tucson, and Pima County to enhance wildlife habitat at various schoolyards, at the Simpson Farm restoration site, the Ajo Detention Basin, and other parks.

Planning and Advisory Support:

- ✓ The department provided advisory input to expedite the Saguaro National Park General Management Plan development process and planning for the Ironwood Forest National Monument (IFNM), including participation in development of goals and objectives, public meetings, and review of Management Situation Analysis.
- ✓ The department also provided input to city transportation departments regarding potential impacts of special projects on burrowing owl habitat in at least two areas.
- ✓ Technical assistance was provided for three Heritage grants involving wildlife habitat and/or interpretive trail.
- ✓ Department staff reviewed urban development projects in the Tucson area including ADOT, housing developments, bank stabilization, bridge construction and other transportation projects and attended meetings regarding the potential La Osa development on the northern end of Ironwood Forest National Monument.
- ✓ The department, State Land Department, the City of Scottsdale, McDowell Sonoran Land Trust, and several user groups collaborated on the Granite Mountain Multi-Use Area.
- ✓ Department staff assisted with developing plans for the Morgan City Wash riparian area in coordination with the City of Peoria, Bureau of Reclamation, Maricopa County and local developers.

- ✓ Discussions continue on possible use of mitigation dollars for restoration/enhancement along the Agua Fria River north of Lake Pleasant. A natural resources interpretive center is also under consideration.
- ✓ Department staff evaluated areas of the Gila River for opportunities to incorporate preservation-oriented waterfowl activities into planning. The goal is assurance of a suitable and consistent food source for migrating birds. Ducks Unlimited and other local residents are cooperating with the endeavor and efforts continue.
- ✓ The department assisted with the Buckeye, Maricopa Flood Control District and Tres Rios planning group to assess development of Buckeye Town Lake. Emphasis is being placed in public education on wildlife and wildlife habitat as well as wildlife-oriented recreational opportunities.
- ✓ Other activities: evaluation of landscaping and maintenance practices of common areas in The Point at Squaw Peak community as it related to wildlife habitat quality and wildlife use; enhancement of a wildlife-viewing site Usery Mountain County Park including the installation of an information kiosk and shade Ramada; enhancement of a wildlife water site at Phoenix's South Mountain Park; and assisting the city of Gilbert with the enhancement of wildlife viewing blinds and building a shade ramada and information kiosk in the Riparian Preserve at Water Park.

URBAN LAW ENFORCEMENT AND PROTECTION

<u>Objective</u>: Protect urban wildlife populations, habitats and public safety by assuring compliance with state and federal law.

Summary of Activities:

Department officers conducted 3,362 hours of urban law enforcement during FY2004. During this effort officers contacted approximately 1,300 hunters in the metro units. Compliance rate for hunters in metro units was approximately 88%. Enforcement presence was provided for hunts in 7M, 37M, 39M, and 42M with emphasis on Tucson Mountain Park and rural interfaces where hunters may infringe upon private property rights. Safety issues and concerns were targeted.

In the Tucson Region, 237 special use permits were issued and no citations were written for wildlife violations in this same area. This was primarily due to education and outreach efforts by regional officers and front office staff targeting both homeowners and hunters using the area. In addition, an enforcement effort was concentrated in the Sahauarita/Corona de Tucson areas, and Avra Valley/Painted Rock areas during dove season.

Enforcement presence was provided for Urban Lakes in the Tucson and Mesa regions. During this effort officers contacted approximately 3,400 anglers at the Urban Lakes. Compliance rate for anglers at Urban Lakes was approximately 90%. The Mesa Region also conducted three special saturation patrols during the year for all of Urban Lakes in the area. Another enforcement effort involving several Mesa Region Urban Lakes was directed towards

investigating the commercialization of urban lake stocked fish. This effort resulted in a number of over limit cases that were successfully charged and prosecuted.

The Pima Canyon, Gates Pass, and, Sandario Road areas of Unit 37 M were patrolled for illegal reptile collectors with assistance from the National Park Service and Pima County Park Police. This activity was due in part to intelligence information obtained through "Operation Madrean Arch." Urban officers provided law enforcement support for the Operation Game Thief and investigations efforts originating from or terminating in urban areas. There were 138 OGT calls received by the department that involved metro units. Urban enforcement efforts resulted in citations being issued for 415 offenses in the metro units.

EDUCATION AND INFORMATION

<u>Objectives:</u> Implement annual marketing plans for all agency programs. Achieve customer satisfaction and agency recognition targets established by program for products and services. Increase participation of culturally diverse people in agency programs. Achieve increase in the public's skills, enjoyment and safety in the pursuit of programmatic and recreational activities.

Summary of Activities:

Ongoing education and information activities are conducted to provided products and services ant promote the department's Urban Wildlife Project. The following information product and customer service activities were accomplished during the reporting period.

- The department used ListServ to provide interested participants with relevant wildlife information. The department also provided resources and stories for television shows, *Arizona Wildlife Views*, and other print media. Various media outlets frequently highlighted the Adobe Mountain Wildlife Center, which was very busy this year in light of West Nile Virus. The Center's Coordinator worked closely with department staff and external media to accommodate the agency's need to disseminate information to the public. Public information staff disseminated information through written articles, public presentations, informational displays, videos, television, radio, and print media outlets.
- The department published and disseminated information materials instructing the public on procedures for dealing with wildlife in its habitat, handling orphaned/injured wildlife, and the rehabilitation of wildlife. Materials from previous years was reprinted as needed, and information was added to the AGFD website.
- A new policy was instituted for AGFD front-counter staff, which frequently receives injured wildlife from the public. These information resources were distributed to licensed Arizona rehabilitators. Staff facilitated and participated in a training session for Southern Arizona rehabilitators.
- Department staff participated in wildlife fairs throughout the state and other events including the Bowhunters Happening, Verde River Birding Festival, Wings Over Wilcox, Boyce Thompson "Buzzard Days", Tres Rios Birding and Nature Festival, Yuma Birding

and Nature Festival, and Southwest Wings. The department also provided support for the Arizona Watchable Wildlife Tourism Association, and four birding and nature festivals.

ENVIRONMENTAL EDUCATION SUBPROGRAM

OVERVIEW:

Project information: Administrative work was conducted at the Arizona Game and Fish Department, Environmental Education Branch, 2221 West Greenway Road, Phoenix, Arizona 85023-4399; the Department's Regional Offices in Pinetop, Flagstaff, Kingman, Yuma, Tucson, and Mesa; and other statewide locations, as necessary. Fieldwork was conducted statewide and, as necessary, in other states.

PROJECTS (Summary of Activities):

ENVIRONMENTAL EDUCATION PROJECT

ENVIRONMENTAL EDUCATION AND INFORMATION

<u>Objectives:</u> Provide diverse educational programs to increase public awareness, appreciation, and understanding of the Mission and Heritage activities of the Commission and department.

Summary of Activities:

The department developed a variety of classroom materials including WILD KIDS, bat activities, mammals, raptors, reptile and amphibian booklets which were posted on the department's website. Ongoing efforts will result in nearly 100% dissemination of materials via the website, with allowances of printed versions and CDs or DVDs for educators not currently connected to the Internet.

Efforts to integrate agency marketing goals into program activities to reach audiences via the website and e-lists during the coming year, using targeted approaches to deliver agency messages are ongoing. The department worked with Tribune in Education newspapers to develop a wildlife issue insert for distribution to 25,000 students. Project WILD and Aquatic WILD workshops were conducted throughout the state to reach new and in-service educators and provide them program training. Overall, 659 educators participated in these workshops. Project WILD manuals were revised and distributed at training workshops. A Logic Model for Environmental Education programs was developed and work is currently underway for completion of those materials, to be marketed during the 2004-05 school year. The Jaguar Study Guide was translated into Spanish and printed for dissemination into Mexico. Project staff also worked with Regional Information and Education Program Managers to deliver "Watchable Wildlife" workshops on bald eagle, bighorn sheep and elk.

The department produced a 13-week television series, which aired on the statewide PBS network and cable systems. The *Arizona Wildlife Views* Television Show production staff received several Awards in FY2004 including:

• National Television Academy Emmy Award

- Two Media Communication Association International Awards
- Two Outdoor Writers awards
- Two Awards of Excellence

The department developed video segments for the University of Arizona for inclusion into the "Aquatic Life" education resource kits developed for classroom educators. In addition, native fish videos were developed and disseminated by Nongame and Environmental Education staff during aquatic workshops.

The Wildlife Building received an estimated 175,000 visitors during the 2003 Arizona State Fair. Fourth-grade programs were aggressively marketed at the Wildlife Building to inner-city schools, attracting a high diverse audience. The department distributed approximately 8,000 copies of *Arizona Wildlife Views* magazine during the 2003 AZ State Fair, educator workshops and 4th-grade Programs. Other informational products were distributed at the Wildlife Building including previous issues of *Arizona Wildlife Views*, current fishing and hunting regulations, and various department brochures. Project staff developed Arizona wildlife exhibits for the Arizona State Capitol Museum, which opened in late winter.

ACCESS SUBPROGRAM

OVERVIEW:

Project information: Administrative work was conducted at the Arizona Game and Fish Department, Development Branch, 2221 West Greenway Road, Phoenix, Arizona 85023-4399; the Department's Regional Offices in Pinetop, Flagstaff, Kingman, Yuma, Tucson, and Mesa; and other statewide locations, as necessary. Fieldwork was conducted statewide.

PROJECTS (Summary of Activities):

ACCESS PROJECT

LANDOWNER RELATIONS PROGRAM

Objectives: Administer the Heritage Access Programs (Heritage Access Grant-In-Aid, Landowner Respect Program, and the Adopt-A-Ranch program) to take a proactive role in establishing working relationships between the landowner/lessee, recreational user groups, land management agencies, and the department and to react to specific problems or conflicts that arise. Inform and educate recreational users of public lands about the responsible use of public and privately held lands and access opportunities to those lands. Maintain the Access Database. Acquire and utilize current technology to facilitate and enhance all activities under the program.

Summary of Activities:

The Heritage Access project (Heritage Access Grant-In-Aid, Landowner Respect Program, and the Adopt-A-Ranch program) was administered through the Landowner Relations Program (LRP). The project focused on establishing working relationships between the landowner/lessee, recreational user groups, land management agencies, and the department.

Featured Access Project Activities:

- A perpetual access easement was granted on the Soller's Ranch in exchange for assistance in installation of water delivery system.
- A perpetual access easement was granted on the Cane Springs Ranch in exchange for road repair work and installation of well and pipeline.
- ➤ A short-term access agreement was granted on the 47 Ranch in exchange for water pipeline and grassland enhancement project.
- ➤ The department purchased a perpetual right of way to the state owned Grassland Wildlife Area.
- A short-term access agreement was granted on the Rocker M Ranch in exchange for grassland enhancement, cross fencing and water delivery system.
- A short-term access agreement was granted on the Yolo Ranch in exchange for road repair work.
- > The department conducted road maintenance in the Clifton Ranger District to provide hunter access.
- ➤ The department conducted road maintenance on the Apache-Sitgreaves National Forest to provide hunter access.
- A short-term access agreement was granted on the Arivaca Ranch in exchange for two cattlegaurds.
- A short-term access agreement was granted on the Yaqui Ranch in exchange for four cattlegaurds.
- ➤ The department assisted with the reclamation of a road to public land at Frye Mesa in the Coronado National Forest.
- ➤ The department purchased a perpetual right-of-way to the state owned Chevelon Wildlife Area.
- ➤ The Adopt-A-Ranch sub-program completed 30 separate ranch projects with 900 volunteers donating approximately 8090 hours. In addition, 14 new Access Agreements were implemented.

ADMINISTRATIVE AND SUPPORT SERVICES

OVERVIEW:

Project Information: Administrative work and support services were conducted at the Arizona Game and Fish Department, Development Branch, 2221 West Greenway Road, Phoenix, Arizona 85023-4399; the Department's Regional Offices in Pinetop, Flagstaff, Kingman, Yuma, Tucson, and Mesa; and other statewide locations, as necessary.

<u>Objectives</u>: Provide administrative oversight and support in the management and monitoring of the Heritage Fund.

Activities under this section include program administration providing planning, grant management, budget and audit accountability.

Planning

- Leadership in development of program and budget plans
- Eligibility and allowability of costs

Fund Administration

- Facilitate Heritage Public Advisory Committee
- Oversight
- Liaison of Heritage Fund

Grant Administration

- Request for Proposals
- Review and Evaluation
- Grant Award
- Monitor grants (activity/expenditures/deliverables)

Budget Administration

- Budget preparation and monitoring
- Financial and budget management reports

Administrative Support

- Human Resources/Personnel
- Information Systems/Technical support
- Accounting support (payroll, GL, accounts payable, accounts receivable)
- Procurement and Printing Support
- Information and Communication Support

Appendix I: Heritage Grants Awarded in FY2004

Eighteen Heritage Fund grants were awarded in FY2004. The awarded grants were announced at the May 2004 Arizona Game and Fish Commission Meeting. Total awarded funding was \$531,117.00, which became available in July 2004. The project period for these grants is three years. The projects are identified by Heritage funding-focus and location in Arizona, including pertinent County and Legislative District(s). Project information regarding the applicants, project contacts, awarded funding and applicant's project descriptions is as follows:

• Environmental Education Heritage Grants

Applicant: Estrella Mountian Community College

Project Contact: Dr. Bryan Tippett, Estrella Mountian Community College, 3000

North Dysart Road, Avondale, AZ 85323

Project: E05003, Wildlife Speaker Series

County: Maricopa Legislative District/s: 15,22

Dollars Awarded: \$9,468.00

The focus of the Wildlife Speakers Series is to establish an Arizona wildlife speaker forum to promote education about the environment as it pertains to wildlife. Speaker topics will focus on current wildlife research and issues regarding AZ wildlife, particularly that within the west valley. Each speaker will deliver a public presentation for the area community members, followed by an educator's seminar. The purpose of the seminar is to provide an opportunity for K-12 educators to discuss newly acquired information with the presenter, and each other, and to dialogue about transferring the information to curriculum. Participants will receive educational packets of information and teaching activities that support the speaker's topic, and a searchable DVD compendium of the presentations.

Applicant: Arizona State University

Project Contact: Dr. Joe Feller, Arizona State University, College of Law, P.O. Box

877906, Tempe, AZ 85287-7906

Project: E05004, Natural Resources Law and Biology Field Seminar

County: Maricopa Legislative District/s: 1,3,17

Dollars Awarded: \$8,100.00

Conservation of wildlife in Arizona requires that the state's future leaders be well-informed about issues related to wildlife and wildlife habitat management. This proposal describes an interdisciplinary seminar to educate law and biology students on the implementation of laws affecting management of wildlife habitat on public lands and waterways in Arizona. The field component of the seminar will take the students to northern Arizona where they will meet with federal, state, and private resource managers to study wildlife habitat management on the Colorado River, Kaibab Plateau, Mount Trumbull, and Toroweap Valley. The objective of direct exposure is to increase understanding of the complexities and difficulties of wildlife management by individuals who, in the near future, will be charged with making and implementing laws and policies affecting wildlife and wildlife habitat.

Applicant: University of Arizona

Project Contact: Dr. Richard Powell, University of Arizona, Sponsored Projects

Services, 1401 E University Boulevard, Tucson, AZ 85721

Project: E05006, Pollinator Habitat Kit and Teacher Training Workshops in

Arizona and Sonora, Mexico

County: Pima Legislative District/s: 25,27

Dollars Awarded: \$10,000.00

A Pollinator Habitat Kit will be created as a comprehensive resource for schools to plan, design, implement, use and maintain schoolyard wildlife habitats. The Kit will contain materials previously created, developed, and compiled, as well as newly created materials developed by the Arizona-Sonora Desert Museum staff resulting in a centralized library of all resources. Teachers and students will be able to use their schoolyard habitats as outdoor classrooms to teach principles of wildlife biology, pollination ecology, plant/animal interactions, systematics, and adaptations of desert plants and animals. Kits will include pollinator plant cards, step-by-step instructions for designing, planting, and caring for their wildlife habitats. K-5 activities, resource lists, wildlife guides, gardening guides, and children's books as well as other guides and resources. We will also conduct teacher-training workshops in Tucson, Arizona and Sonora, Mexico.

• IIAPM Heritage Grants

Applicant: Pima County

Project Contact: Mr. C.H. Huckelberry, Pima County, 130 W. Congress St., 10th

Floor, Tucson, AZ 85701

Project: I05001, Evaluation of Mesquite Mouse Status

County: Pima Legislative District/s: 25,26,27,28,29,30

Dollars Awarded: \$21,572.00

Evaluate the status of mesquite mouse habitat, distribution, population, and trend in Pima County to identify areas where this species is still present and can be protected.

Applicant: Northern Arizona University

Project Contact: Ms. Wilma Ennenga, Northern Arizona University, Office of Grant

and Contract Services, Box 4130, Flagstaff, AZ 86011-4130

Project: I05002, Battles Between Non-Native Crayfish and Native Species

in Fossil Creek, Arizona: Does Restoration Hinder or Help?

County: Coconino Legislative District/s: 5

Dollars Awarded: \$82,024.00

This study will test how crayfish affect native species in Fossil Creek Arizona, methods for reducing crayfish populations, and distributions of the fossil springsnail.

Applicant: University of Arizona

Project Contact: Dr. Richard Powell, University of Arizona, Sponsored Projects

Services, 1401 E University Boulevard, Tucson, AZ 85721

Project: I05004, Microsatellite Genetic Variation in Flat-Tailed Horned

Lizards (Phrynosoma mcallii) in Arizona, California and Mexico

County: Pima Legislative District/s: 24,25,29

Dollars Awarded: \$32,658.00

This project will examine genetic factors affecting long-term survival of flat-tailed horned lizards (Phrynosoma macallii). Genetic variation at nuclear microsatellite loci within and among populations will be examined to indicate those populations which may be in decline. Genetic distance among populations will be estimated and analyzed phylogenetically to indicate which populations may be taxonomically unique.

Applicant: USDI, Bureau of Land Management

Project Contact: Ms. Gail Acheson, USDI, Bureau of Land Management, Yuma

Field Office, 2555 East Gila Ridge Road, Yuma, AZ 85365

Project: I05007, Long-Term Cuckoo Monitoring in Yuma Area

County: Yuma Legislative District/s: 24

Dollars Awarded: \$44,797.00

Bureau of Land Management (BLM) proposes to begin a long-term population monitoring program for yellow-billed cuckoo (Coccyzus americanus), a federal candidate species and an Arizona threatened species. Surveys will be established on BLM and Bureau of Reclamation land along riparian corridors of the Colorado and Gila Rivers in Yuma and La Paz Counties. This project proposal will satisfy three goals of the yellow-billed cuckoo sensitive element. The data will provide valuable data for wildlife and land managing agencies by helping agencies to mitigate for and restore suitable yellow-billed cuckoo habitat. The ultimate goal is to monitor long-term population trends of yellow-billed cuckoo.

Applicant: University of Arizona

Project Contact: Dr. Richard Powell, University of Arizona, Sponsored Projects

Services, 1401 E University Boulevard, Tucson, AZ 85721

Project: I05009, Conservation Applications of Archaeological Data

County: Navajo Legislative District/s: 5

Dollars Awarded: \$91,815.00

This project will examine historic distributions of vertebrate species in Arizona, with particular focus on the Razorback Sucker (Xyrauchen texanus) and other native fishes. Research will compile a GIS-linked interactive database of known archaeological records of native Arizona vertebrates. Project will result in a database of all archaeological records in the past, and assessments of using archaeological data in wildlife management, as well as a website summary of the project and two displays for the public.

Applicant: University of Arizona

Project Contact: Dr. Richard Powell, University of Arizona, Sponsored Projects

Services, 1401 E University Boulevard, Tucson, AZ 85721

Project: I05010, Bog Hole Wildlife Area Monitoring and Management

County: Santa Cruz Legislative District/s: 25

Dollars Awarded: \$40,795.00

Analyze spatial and temporal inventory and monitoring information to plan the restoration of The Bog Hole Wildlife Area in the San Rafael Valley

• Public Access Heritage Grants

Applicant: University of Arizona

Project Contact: Dr. Richard Powell, University of Arizona, Sponsored Projects

Services, 1401 E University Boulevard, Tucson, AZ 85721

Project: P05001, Creating Trails Along Secondary Washes in Tucson

County: Pima Legislative District/s: 27

Dollars Awarded: \$24,238.00

To valuate the current access issues along secondary washes within Tucson, prescribe guidelines for design of new trailheads and trails, and enhancing wildlife habitats along trails. Report information will include a field assessment of existing urban washes and their relative ranking in terms of suitability for pedestrian access and support for urban wildlife, and guidelines for future trail design, including access point(s), connections between washes and larger watercourses and for wildlife habitat improvements.

Applicant: USDA, Apache-Sitgreaves National Forests

Project Contact: Mr. Kent Ellett, USDA, Apache-Sitgreaves National Forests,

Clifton Ranger District, HC1 Box 733, Duncan, AZ 85534

Project: P05002, Upper Eagle Creek Watershed Trail Restoration

County: Greenlee Legislative District/s: 5

Dollars Awarded: \$41,500.00

To open public access around private property, create new access between existing trails and realignment of existing access routes to protect the habitat areas in the Upper Eagle Creek Watershed.

• Schoolyard Heritage Grants

Applicant: Prescott Mile High Middle School

Project Contact: Ms. Barbara Freund, Prescott Mile High Middle School, 300 South

Granite Street, Prescott, AZ 86303

Project: S05001, Prescott Mile High Hands-On Habitat **County:** Yavapai **Legislative District/s:** 1

Dollars Awarded: \$7,850.00

Building and installing a wetland ecosystem, with a pond, for the educational use of students and the community of Prescott, Arizona.

December 24, 2004 Page A1-5

Applicant: Flagstaff Unified District

Project Contact: Dr. Kevin Brown, Flagstaff Unified District, Administrative Office,

3285 East Sparrow, Flagstaff, AZ 86004

Project: S05002, Francis Short Pond Restoration Project County: Coconino Legislative District/s: 2

Dollars Awarded: \$10,000.00

We wish to restore an urban pond next to a Flagstaff Unified School District (FUSD) school site. The pond is used both by the students of the FUSD and the citizens of Flagstaff. High school students from the Applied Biology Class are drawing up plans for restoration of the pond to be able to sustain fish they stock there through Arizona Game and Fish. Students will also use the pond for environmental studies.

• Urban Heritage Grants

Applicant: University of Arizona

Project Contact: Dr. Richard Powell, University of Arizona, Sponsored Projects

Services, 1401 E University Boulevard, Tucson, AZ 85721

Project: U05004, GIS-Linked Database for Bats in Tucson

County: Pima Legislative District/s: 25,26,27,28,29,30

Dollars Awarded: \$18,684.00

We propose to create a GIS-linked database for bats in the Tucson metropolitan area. We will compile existing data on bat roosts from a variety of sources and create a database for data on bats, their roosts, and property-owner actions regarding roosts. We will test and refine the database by collecting data through visits to property owners with bats and through cooperating landscaping and animal damage control companies. This project will give the department access to existing information in a useable format, and a framework to collect and store future data. Questions about the abundance, distribution, and roost characteristics of bats in the metropolitan area can be addressed, in addition to questions about actions of landowners with bats on their property.

Applicant: University of Arizona

Project Contact: Dr. Richard Powell, University of Arizona, Sponsored Projects

Services, 1401 E University Boulevard, Tucson, AZ 85721

Project: U05006, Plants Benefiting Urban Wildlife on UA Campus

County: Pima Legislative District/s: 27

Dollars Awarded: \$16,369.00

This research evaluates the UA Campus vegetation in terms of potential urban wildlife value. Results will consist of: 1) an assessment of existing documents and data relevant to plant and plant groupings on UA Campus, 2) field data identifying plants and plant groupings on UA Campus that provide potential wildlife habitat, and ranking of data based on access and habitat potential, 3) a GIS-based document identifying location of identified UA plants, 4) supporting interpretive materials for identified UA plants that support urban wildlife, and 5) species recommendations for future plantings on Campus that support urban wildlife.

Applicant: Arizona State University

Project Contact: Mr. Ben Fasano, Arizona State University, Office of Research and

Sponsored Projects, P.O. Box 873503, Tempe, AZ 85287-3503

Project: U05009, Constructed Sonoran Riparian Habitat County: Maricopa Legislative District/s: 22

Dollars Awarded: \$12,957.00

A riparian zone containing native Sonoran Desert plants, nested in a storm drain, will be constructed within a golf course at Arizona State University East (ASU East). The riparian area will create a unique habitat at this urban site. Applied Biological Sciences students at ASU East will use the riparian community as a living laboratory. The riparian area will contain a pathway for visitors to view the plants and animals using the site.

Applicant: University of Arizona

Project Contact: Dr. Richard Powell, University of Arizona, Sponsored Projects

Services, 1401 E University Boulevard, Tucson, AZ 85721

Project: U05011, Conservation of Tucson's Riparian Herpetofauna County: Pima Legislative District/s: 26,27,28,29

Dollars Awarded: \$26,970.00

Tucson's majority riparian corridors originally supported one of North America's richest herpetofaunas. Among the most striking remnants are box turtles, 6 summer-breeding frogs and toads, and natural communities in Sabino Canyon, West Branch of Santa Cruz River, and Tanque Verde Bosque. In context of a long-term framework for urban ecological restoration, this proposal will initiate (1) targeted surveys for breeding anurans, (2) mosquito control studies associated with anuran breeding, (3) survey and genetic study of box turtles, and (4) completion of environmental histories for the herpetofaunas at key sites.

Applicant: University of Arizona

Project Contact: Ms. Lee Anne Peters, University of Arizona, Office of Research

and Contract Analysis, P.O. Box 210158, Tucson, AZ 85721

Project: U05012, Bat Response to Habitat Enhancement in an Urban

Wildlife Interface

County: Pima Legislative District/s: 30

Dollars Awarded: \$31,320.00

This study is designated to monitor the response of bats to a fire altered resource both before and after storm runoff sediments are removed from historic pools providing habitat enhancement for both bats and fish. Sabino Canyon is a popular recreational area that, due to its proximity to Tucson AZ receives over 1.5 million visitors/yr. This high visitation rate to a fragile riparian environment has the potential to negatively impact resident species. Information gained will enable land managers to make informed decisions.